



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2020-0265; Project Identifier MCAI-2019-00131-E]

RIN 2120-AA64

Airworthiness Directives; Rolls-Royce Deutschland Ltd & Co KG (Type Certificate Previously Held by Rolls-Royce plc) Turbofan Engines.

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for all Rolls-Royce Deutschland Ltd. & Co KG Trent XWB-75, Trent XWB-79, Trent XWB-79B, and Trent XWB-84 model turbofan engines. This proposed AD was prompted by reports of a lack of weld fusion on the resistance welding during manufacturing, which could result in air leakage through the low-pressure turbine (LPT) rear support seal panel assembly (“LPT seal panel”). This proposed AD would require replacement of the LPT seal panel. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <https://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Rolls-Royce Deutschland Ltd. & Co KG, Eschenweg 11, 15827 Blankenfelde-Mahlow, Germany; phone: +49 (0) 33 708 6 0; email: <https://www.rolls-royce.com/contact-us.aspx>. You may view this service information at the FAA, Engine and Propeller Standards Branch, 1200 District Avenue, Burlington, MA, 01803. For information on the availability of this material at the FAA, call 781-238-7759.

Examining the AD Docket

You may examine the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0265; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, the mandatory continuing airworthiness information (MCAI), any comments received, and other information. The street address for Docket Operations is listed above. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Stephen Elwin, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA, 01803; phone: 781-238-7236; fax: 781-238-7199; email: stephen.l.elwin@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section.

Include “Docket No. FAA-2020-0265; Project Identifier MCAI-2019-00131-E” at the beginning of your comments. The FAA specifically invites comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. The FAA will consider all comments received by the closing date and may amend this NPRM because of those comments.

Except for Confidential Business Information as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to <https://www.regulations.gov>, including any personal information you provide. The FAA will also post a report summarizing each substantive verbal contact received about this NPRM.

Confidential Business Information

Confidential Business Information (CBI) is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Stephen Elwin, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA, 01803. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Discussion

The European Union Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Community, has issued EASA AD 2019-0071, dated March 28, 2019 (referred to after this as “the MCAI”), to address the unsafe condition on these products. The MCAI states:

The affected parts, as defined in this [EASA] AD, are static parts, located behind the intermediate pressure (IP) turbine 2 disc, forming a seal between the IP and LP cavities through an interface with the rotating IP flying seal. It was recently determined that, on certain affected parts, insufficient fusion was achieved on the resistance welding during manufacturing.

This condition, if not corrected, could lead to air leakage through the LP seal panel, affecting the service lives of the IP turbine 2 and LP turbine 1 discs, possibly resulting in premature disc failure and high energy uncontained debris release from the engine, with consequent damage to, and reduced control of, the aeroplane.

To address this potential unsafe condition, Rolls-Royce identified the affected parts and published the NMSB, providing instructions to replace these affected parts.

For the reason described above, this [EASA] AD requires replacement of affected parts during a qualified shop visit.

You may obtain further information by examining the MCAI in the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2020-0265.

Related Service Information under 1 CFR Part 51

The FAA reviewed Rolls-Royce plc Alert Non-Modification Service Bulletin (NMSB) Trent XWB 72-AJ994, Revision 2, dated August 29, 2019. The Alert NMSB describes procedures for removing and replacing the LPT seal panel. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

FAA's Determination

This product has been approved by EASA and is approved for operation in the United States. Pursuant to our bilateral agreement with the European Community, EASA has notified us of the unsafe condition described in the MCAI and service information referenced above. The FAA is proposing this AD because we evaluated all the relevant information provided by EASA and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This proposed AD would require replacement of the LPT seal panel.

Costs of Compliance

The FAA estimates that this proposed AD affects 26 engines installed on airplanes of U.S. registry.

The FAA estimates the following costs to comply with this proposed AD:

Estimated costs

| Action | Labor Cost | Parts Cost | Cost per product | Cost on U.S. operators |
|----------------------------|------------------------------------|-------------------|-------------------------|-------------------------------|
| Replace the LPT seal panel | 1 work-hour x \$85 per hour = \$85 | \$282,890 | \$282,975 | \$7,357,350 |

According to the manufacturer, all of the costs of this proposed AD may be covered under warranty, thereby reducing the cost impact on affected individuals. The FAA does not control warranty coverage for affected individuals. As a result, the FAA has included all costs in our cost estimate.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and

(3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

Rolls-Royce Deutschland Ltd & Co KG: Docket No. FAA-2020-0265; Project Identifier MCAI-2019-00131-E.

(a) Comments Due Date

The FAA must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to all Rolls-Royce Deutschland Ltd. & Co KG (Type Certificate Previously Held by Rolls-Royce plc) Trent XWB-75, Trent XWB-79, Trent XWB-79B, and Trent XWB-84 model turbofan engines.

(d) Subject

Joint Aircraft System Component (JASC) Code 7250, Turbine Section.

(e) Unsafe Condition

This AD was prompted by reports of a lack of weld fusion on the resistance welding during manufacturing, which could result in air leakage through the low-pressure turbine (LPT) rear support seal panel assembly (“LPT seal panel”) causing a life reduction to the intermediate pressure turbine (IPT) 2 and LPT 1 disks. The FAA is issuing this AD to prevent failure of the IPT 2 and LPT 1 disks. The unsafe condition, if not addressed, could result in uncontained debris release, damage to the engine, and damage to the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

During the next qualified shop visit after the effective date of this AD, or during the current shop visit, if, on the effective date of this AD, the engine or module 51 is in a qualified shop visit, remove the affected LPT seal panel from service and replace it with a part eligible for installation in accordance with the Accomplishment Instructions, paragraph 3.A., of Rolls-Royce plc Alert Non-Modification Service Bulletin (NMSB) Trent XWB 72-AJ994, Revision 2, dated August 29, 2019.

(h) Definitions

(1) For the purpose of this AD, a “qualified shop visit” is a Level 4 (Overhaul) or Level 3 (Refurbishment) shop visit of an affected engine with an affected LPT seal panel installed, or Level 2 shop visit (Check and Repair) of module 51 with an affected LPT seal panel installed.

(2) For the purpose of this AD, “module 51” is the intermediate pressure low-pressure turbine assembly.

(3) For the purpose of this AD, an “affected LPT seal panel” is LPT rear support seal panel assembly, identified as catalogue serial number (CSN) 72512301890, with a

serial number (S/N) listed in Appendix 1 of RR Alert NMSB Trent XWB 72-AJ994, Revision 2, dated August 29, 2019. This appendix additionally lists the module 51 S/N and engine S/N in which these panels were originally installed.

(4) For the purpose of this AD, a “part eligible for installation” is a LPT seal panel, CSN 72512301890, with a S/N not listed in Appendix 1 of RR Alert NMSB Trent XWB 72-AJ994, Revision 2, dated August 29, 2019.

(i) Credit for Previous Actions

You may take credit for replacement of the LPT seal panel requirements of paragraph (g) of this AD if you performed the replacement before the effective date of this AD using RR Alert NMSB Trent XWB 72-AJ994, Revision 1, dated November 15, 2018, or Initial Issue, dated September 5, 2018.

(j) Alternative Methods of Compliance (AMOCs)

(1) The Manager, ECO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ECO Branch, send it to the attention of the person identified in paragraph (k)(1) of this AD. You may email your request to: ANE-AD-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(k) Related Information

(1) For more information about this AD, contact Stephen Elwin, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA, 01803; phone: 781-238-7236; fax: 781-238-7199; email: stephen.l.elwin@faa.gov.

(2) Refer to European Union Aviation Safety Agency (EASA) AD 2019-0071, dated March 28, 2019, for more information. You may examine the EASA AD in the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating it in Docket No. FAA-2020-0265.

(3) For service information identified in this AD, contact Rolls-Royce Deutschland Ltd. & Co KG, Eschenweg 11, 15827 Blankenfelde-Mahlow, Germany; phone: +49 (0) 33 708 6 0; email: <https://www.rolls-royce.com/contact-us.aspx>. You may view this referenced service information at the FAA, Engine and Propeller Standards Branch, 1200 District Avenue, Burlington, MA, 01803. For information on the availability of this material at the FAA, call 781-238-7759.

Issued on March 24, 2020.

Lance T. Gant, Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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